

**IDENTIFICATION OF A REGION OF THE MAJOR SURFACE  
GLYCOPROTEIN (MSG) GENE OF HUMAN *PNEUMOCYSTIS*  
*CARINII***

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**ABSTRACT**

Particularly sensitive techniques for the detection of *P. carinii* in clinical samples are disclosed. These techniques relate to the PCR amplification and/or detection of human-*P. carinii* major surface glycoprotein (MSG) gene sequences. Also disclosed are seven novel genes encoding human-*P. carinii* MSG, and the proteins encoded for by these genes. These genes provide proof that human-*P. carinii* MSG is encoded for by a highly conserved gene family, and that the corresponding proteins have a very highly conserved region of about 100 amino acids near their C-terminal end. This highly conserved carboxy-terminal region has a significantly different sequence than that found in rat-derived MSG.